AMPEX

BCC-1 COLOR TELEVISION CAMERA

AMPEX

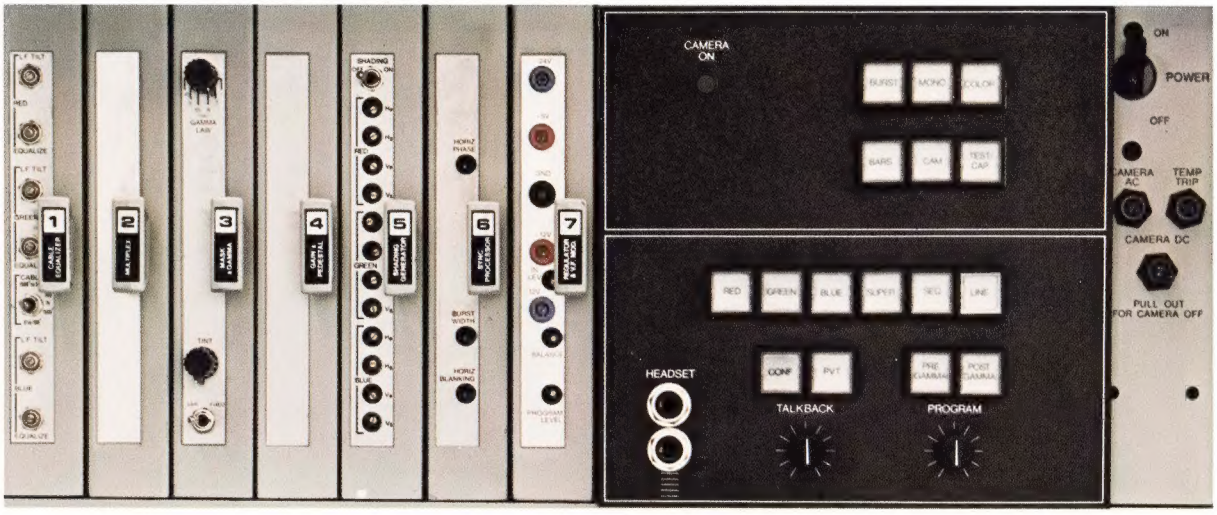
IN THIS COMPLETELY NEW COLOR CAMERA FROM AMPEX, BROADCASTERS WILL FIND EVERY PERFORMANCE CAPABILITY THAT CURRENT TECHNOLOGY OFFERS. ADD TO THAT A FULL RANGE OF DESIGN FEATURES TO ENHANCE OPERATOR EFFICIENCY AND MAKE MAINTENANCE MORE CONVENIENT, AND YOU HAVE AN UNEXCELLED BROADCAST COLOR CAMERA FOR EVERY APPLICATION.

From basic concept to the smallest convenience feature, the all new BCC-1 was designed to be what broadcasters want a camera to be: an efficient, reliable performer, convenient to use, a breeze to set up and maintain. The list of benefits is a long one, all adding up to a top-grade professional camera for demanding work.

SETUP AND ADJUSTMENT

Let's start where you start, at the beginning of the working day. One person alone can set up both camera and CCU. Just seven seconds after turnon, the BCC-1 makes stable, broadcast-quality pictures. The operator can make necessary adjustments at the camera head, then go to the CCU and complete the setup routine. Procedures are so convenient, and the camera is so stable, that setup should require no more than five minutes per day.

Mounting the lens is simple and convenient, thanks to a rigid hook-on lens mount with one-point suspension. Only two screws are required to hold the lens assembly



Monitoring and Auxiliary Switch Panel.

COLOR TELEVISION CAMERA BCC-1

firmly in place. The BCC-1 offers a variety of zoom lenses, from 10:1 to 34:1, with apertures from f1.6 to f2.0.

A rugged, weather-resistant sculptured camera head housing provides easy and safe assembly, disassembly and transport of the camera. Constructed of machined aluminum castings, the housing also allows ready access to all camera head components and electronics. Broadcast-grade 1 inch Plumbicon* tubes, including an extended red, are standard.

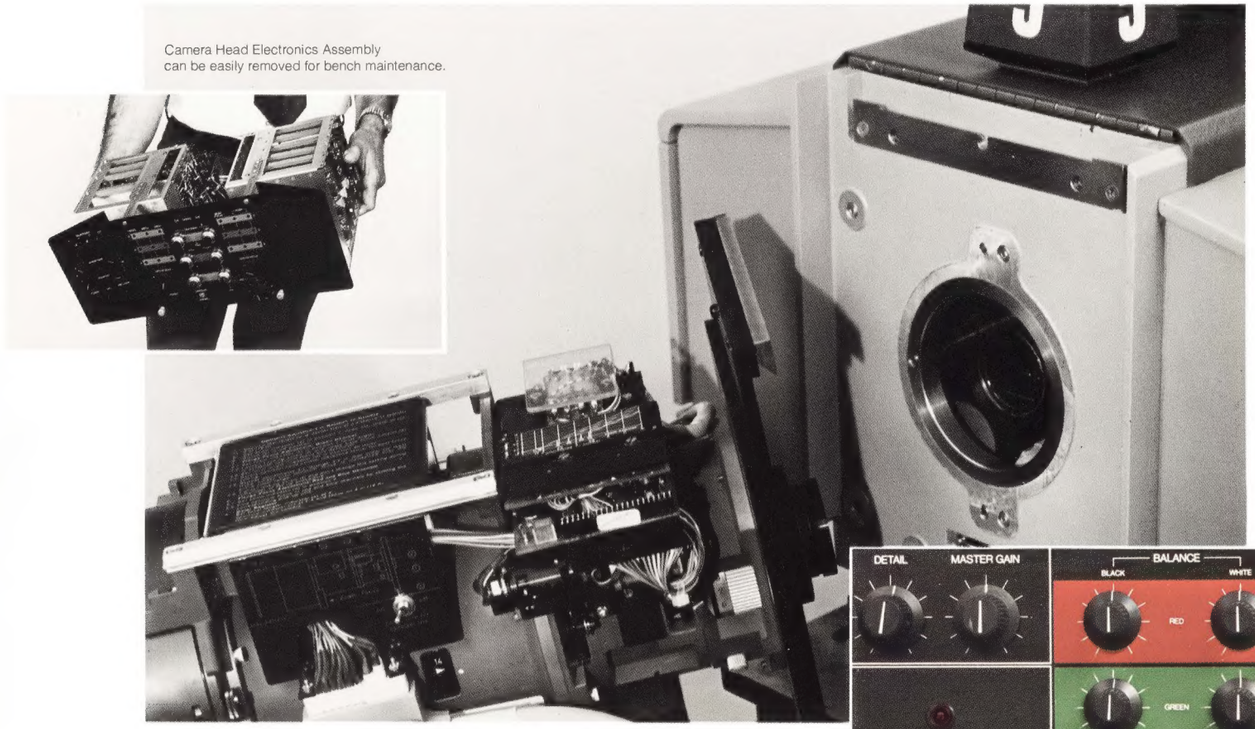
maintenance. It also features excellent geometry, and a bright CRT display with a switchable "peaking" circuit for better focusing in high light conditions.

OUTDOOR CONVENIENCES

Several design features contribute to better performance outdoors. There is an optional removeable viewfinder hood, for example, and a five-position filter wheel that accommodates light temperatures of 2000 to 7000 degrees K, for rapid conversion of the camera

Hook-on mounting and two screws hold lens rigidly in place, but allow rapid, convenient assembly or disassembly.

Camera Head Electronics Assembly
can be easily removed for bench maintenance.



Also standard is a bias-lighted prism, which reduces image lag when panning or shooting moving objects, even in the dimmest studio light.

AUTOMATIC CENTERING

In operation, the BCC-1 leaves nothing to chance when it comes to geometry and registration. Computer-matched yokes assure a new standard of precision. Full-time automatic centering detects and automatically corrects any drift errors within ±0.8% (per picture height), far exceeding the range of normal drift error. With the auto centering electronics as standard equipment, the BCC-1 offers long-term stability unexcelled by any camera in the world.

VERSATILE VIEWFINDER

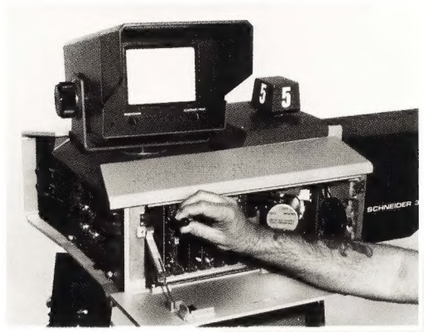
The BCC-1 viewfinder tilts for convenient viewing and rotates to either side for added convenience during

*T.M. N.V. Philips

head from indoor to outdoor use. Even the tally light can be switched to double the normal illumination, or it can be turned off if desired.

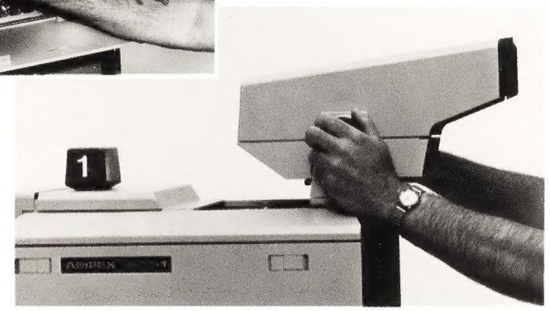
INSURANCE EXTRAS

Forced-air cooling of the entire camera head and viewfinder provides temperature stability, enhances color balance, and protects electronic components.



Viewfinder rotates 90° to either side
for viewing while adjustments are made.

Viewfinder is removed rearward.



As added convenience and insurance, there is an electronic lens cap as well as a mechanical cap. All maintenance and setup controls at the camera head are behind a separate panel exposing only those controls needed by the camera operator.

CAMERA CONTROL

All interaction between the camera and CCU has been taken into consideration. A return viewfinder feed eliminates any guesswork on the part of the operator as to just what is happening back at the control unit. With the touch of a button, the operator selects the return viewfinder feed and receives the same picture on his viewfinder that the director sees on the switcher monitor.

Two-way iris control allows either the camera operator or the technical director at the CCU to adjust the iris.

Optional Remote Control Panels.
Vernier color trim controls (left) and joystick-type pedestal and gain control (right).

Voice communication is improved by a new digital intercom system with reduced crosstalk and line noise. It adapts to either 2- or 4-wire operation, which allows it to interface with almost all master distribution systems. If the camera operator and director are not in voice communication, either can signal for attention with the 2-way camera-CCU call facility.

The CCU itself features an extremely stable encoder that requires little or no adjustment. A two-line image enhancer (horizontal and vertical) incorporates coring and combing. And for extra versatility, the remote control panels are of a modular design that allows interchange or rearrangement to suit your particular operational needs. An optional joystick—type remote panel with vernier paint pots can add to operational versatility in the most critical installation.

MAINTENANCE IS A BREEZE

When it's time for maintenance procedures, the BCC-1 makes it easy for you. The viewfinder can be detached in seconds. There is ready access to all components inside the camera head. Leave the viewfinder attached if you want, and rotate it 90 degrees. Then you can watch the viewfinder as you make adjustments to components or electronics. You can even remove the entire electronics tray from the camera head, set it on a bench, plug in extender cables and perform complete servicing of all circuitry under operational conditions.

For routine camera alignment, including adjustment of equalization, the BCC-1 provides a test signal consisting of stairstep, pulse and bar. External test equipment is unnecessary for most maintenance and setup operations.

The camera cable measures ½ inch in diameter, and weighs only 13½ pounds per 100 feet including connectors. Cable can be equalized up to 2400 feet compensating for both high-frequency losses and low-frequency tilt. Shading correction allows a full 20 percent compensation both vertically and horizontally on all three video channels. Adjustable pulse delay allows H-phase matching without external delay lines or the necessity of cutting cables to precise lengths.

DESIGNED FOR WORKING BROADCASTERS

There you have it. An entirely new, versatile camera system with every performance capability and convenience feature you need for peak operational efficiency in the studio or on location. The BCC-1 is everything broadcasters want and need in a color camera.

FEATURES

- Rugged, heavy duty construction
- Tiltable, rotatable viewfinder with adjustable hood
- Digital intercom system
- 1000-hour stability
- 7-second warmups to stable broadcast picture
- Full-time automatic centering
- Bias-lighted prism
- Extended red Plumbicon tube
- Return viewfinder feed
- One-man operational setup
- Convenient maintenance
- Convenient handling and transportation

COLOR TELEVISION CAMERA BCC-1

Specifications

POWER

95 - 130 V rms or 190 - 260 V rms;
47 - 63 Hz @ ≈500 VA

SCANS

EIA .....525/60 fields/s
CCIR .....625/50 fields/s

COLOR STANDARDS

NTSC, PAL I/B, PAL-M

INPUTS

EIA/CCIR composite sync and subcarrier and 7.8 KHz square wave or PAL-P pulse.

OUTPUTS

3—75 ohm video outputs, 2 composite and one selectable composite/non-composite. Separate R-G-B and B-Y chroma key outputs.

SENSITIVITY/SIGNAL TO NOISE

A −52dB signal-to-noise ratio in encoded luminance channel (measured with 0.5 gamma at 50% peak white, no aperture correction and a 5 MHz bandwidth will be achieved at an aperture of f1.6, 36 footcandles (388 lux), 3200°K illumination incident on a 60% reflective white or;

a −46dB signal-to-noise measured as above at an aperture of f1.6, 15 footcandles (160 lux). 3200°K illumination incident on a 60% reflective white using Plumbicon tubes of average sensitivity and an XQ1073 in red channel

ENVIRONMENTAL

temperature range
camera .....−15°C to +45°C
CCU .....0°C to +45°C

STABILITY

CAMERA HEAD: All controls stable over −15°C to +45°C (auto centering on) after 10 minute warmup period and over any 1000 hour interval.

CCU: All controls stable over 0°C to +45°C after 10 minute warmup period and over any 1000 hour interval.

REGISTRATION ACCURACY

Zone 1 (circle equal to 0.8 picture height) .05%
Zone 2 (circle equal to picture width) 0.1%
Zone 3 (elsewhere) 0.2%

GEOMETRY

Zone 1 less than 0.25%
Zone 2 less than 0.5%
Zone 3 less than 1.0%

Registration accuracy and geometry specifications do not include lens deviations and are measured with average Plumbicon tubes.

MODULATION DEPTH

In the G signal, when transmitting a 5 MHz bar pattern at optimum setting in center of screen without aperture correction >30% (depending on Plumbicon) with aperture correction adjustable to 100%.

RESOLUTION

Limiting, 650 lines (depending on Plumbicon tube)

VIEWFINDER

Brightness: 200 foot lamberts (685 NIT) high frequency peaking, switchable

DIMENSIONS

CAMERA HEAD	VIEWFINDER	CCU
LENGTH		
22" (56 cm)	11" (28 cm)	20" (51 cm)
WIDTH		
19" (48 cm)	8 ¾" (22 cm)	19" (48 cm)
HEIGHT		
11" (28 cm)	7" (18 cm)	8 ¾" (22 cm)
WEIGHT		
79 lbs. (36 kg)	12 lbs. (5.5 kg)	45 lbs. (20 kg)

AUX. CASE

LENGTH	18 ¾" (48 cm)
WIDTH	19" (48 cm)
HEIGHT	5 ¼" (13 cm)
WEIGHT	25 lbs. (11 kg)

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